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09/634,473	08/08/2000	Timothy M. Schmidl	TI-30651	5425

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EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/634,473

Applicant(s)

SCHMIDL ET AL.

Examiner

Edith M Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5-6, 8-9, 10-11, 13, 15-16 & 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Gillis et al. (US 5323447).

Regarding **claims 1 & 9**, Gillis et al. discloses a method (FIG.2 & 3) of controlling frequency hopping wireless communications between first (10 FIG.1) and second (20 FIG.1) frequency hopping wireless communication devices, comprising: the first device determining that a first frequency of a frequency hopping pattern associated with transmissions by the second device/first device is better than a second frequency of the frequency hopping pattern for transmission of a selected communication from the second device/first device to the first device/second device via a wireless communication link (column 2 lines 7-45, where the first device/base unit determines the better one/the substitute channel for hop in FIG.3 & FIG.4) , wherein the second frequency is specified by the frequency hopping pattern for the selected communication (column 2 lines 17-22 wherein the second frequency is from the first group of predetermined communication channels/the hopping pattern) and the first frequency is specified

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by the frequency hopping pattern for a communication from the second device/first device to the first device/second device that most closely precedes the selected communication (column 2 lines 26-44, wherein the first frequency is specified by the second group of predetermined communication channels); responsive to said determining step, the first device instructing the second device via the wireless communication link to deviate from the frequency hopping pattern and use the first frequency for transmission of the selected communication instead of the second frequency (303-307 FIG.3, SEND OPCODE OF NEW CHANNEL FIG.4, column 2 lines 32-38, column 10 lines 25-30); and responsive to said instructing step, the second device transmitting the selected communication on the first frequency via the wireless communication link (FIG.4, column 10 lines 30-35).

Regarding **claim 2**, Gillis et al. discloses the determining step including considering first channel quality information associated with the first frequency and second channel quality information associated with the second frequency (205 FIG.2, 305 FIG.3, Abstract, column 2 lines 5-25, wherein the first device considering the second channel quality information associated with the second frequency; column 2 lines 33-38, wherein the first device considering the first channel quality information associated with the first frequency).

Regarding **claim 3**, Gillie et al. discloses the first channel quality information and the second channel quality information include information indicative of signal-to-noise plus interference ratios respectively associated with transmissions on the first and second frequencies (column 1 lines 15-25, column 2 lines 55-60, column 4 lines 26-33, column 5 lines 20-30, column 8 lines 47-62, column 9 lines 2-8, wherein the interference, signal and noise can be measured).

Regarding **claim 5**, Gillis et al. discloses the determining step includes considering sync word correlation information associated with transmissions on the first and second frequencies (203 FIG.2, column 4 lines 34-50, column 7 lines 15-22, column 7 line 66-column 8 line 2).

Regarding **claim 6**, Gillis et al. discloses that the determining step includes considering packet error information associated with transmissions on the first and second frequencies (column 8 lines 62-66).

Regarding **claim 8**, Gillis et al. disclose all subject matter claimed by executing FIG.2 and FIG.3 operations when finding a better channel than the further selected channel after the first found of first frequency cited in claim 1, and the new found better channel is the third frequency and the further selected channel is the fourth frequency.

Regarding **claims 10 & 11**, Gillis et al. discloses the determining step includes considering information indicative of potential interference at the first frequency and at the second frequency (column 2 lines 17-25, FIG.2 & FIG.3) and the determining that an interferer is operating at the second frequency (206-NO-BASE ENTER CHANNEL CHANGE ROUTINE FIG.2, where the interferer operating at the second frequency is determined by the first device/base unit).

Regarding **claim 13**, Gillis et al. discloses all subject matters claimed: a frequency hopping wireless communication apparatus (10 FIG.1), comprising: a determiner (135, 120, 110 FIG.1, column 4 lines 1-33) for determining whether a first frequency of a frequency hopping pattern associated with transmissions by a further frequency hopping wireless communication apparatus is better than a second frequency of the frequency hopping pattern for receiving a selected communication transmitted by the further apparatus, wherein the second frequency is

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specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the further apparatus to said apparatus that most closely precedes the selected communication; and a wireless communication interface coupled to said determiner (130-140 FIG. 1), and responsive to an indication from said determiner that the first frequency is better than the second frequency, for instructing/for the most closely preceding communication and the first frequency to inform, the further apparatus via a wireless communication link to deviate from the frequency hopping pattern and use the first frequency for transmission of the selected communication instead of the second frequency.

Regarding **claim 15**, Gillis et al. discloses the apparatus provided in a base unit of a cordless telephone system (10 FIG.1).

Regarding **claim 16**, Gillis et al. discloses all subject matter claimed: a frequency hopping wireless communication apparatus (20 FIG.1), comprising: a wireless communication interface (240-230 FIG.2) for receiving from a further frequency hopping wireless communication apparatus via a wireless communication link an indication (306 FIG.3) that a first frequency of a frequency hopping pattern associated with transmissions by said apparatus is better than a second frequency of the frequency hopping pattern for transmission of a selected communication from said apparatus to the further apparatus via the wireless communication link, wherein the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from said apparatus to the further apparatus that most closely precedes the selected communication; and an indicator (225-220-250 FIG.1) coupled to said wireless

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communication interface and responsive to said indication for informing said wireless communication interface that the frequency hopping pattern will be deviated from in order to use the first frequency for transmission of the selected communication instead of the second frequency.

Regarding **claim 18**, Gillis et al. discloses the apparatus provided in a cordless telephone (FIG. 1, Abstract)

3. Claims 1 & 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Souissi et al.

Regarding **claims 1 & 9**, Souissi et al. discloses a method (FIG.2, column 2 lines 41-65, column 3 lines 20-25) of controlling frequency hopping wireless communications between first (51 FIG.2) and second (52 FIG.2) frequency hopping wireless communication devices, comprising: the first device determining that a first frequency of a frequency hopping pattern associated with transmissions by the second device (the uplink, slave-to-master, column 2 lines 56-65)/first device (the downlink, master-to-slave) is better than a second frequency of the frequency hopping pattern for transmission of a selected communication from the second device to the first device via a wireless communication link (column 3 lines 20-25, where the first/master device determines/searches the better one/the best alternative channel for hop from a predetermined spectrum) , wherein the second frequency is specified by the frequency hopping pattern for the selected communication and the first frequency is specified by the frequency hopping pattern for a communication from the second device/first device to the first device/second device that most closely precedes the selected communication; responsive to said determining step, the first device instructing the second device via the wireless communication link to deviate from the frequency hopping pattern and use the first frequency for transmission of

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the selected communication instead of the second frequency (column 3 lines 20-25, column 4 lines 10-15, where the master suggests/informs the slave one the new channel); and responsive to said instructing step, the second device transmitting the selected communication on the first frequency via the wireless communication link.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 12, 14, 17, & 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillis et al. (US 5323447) in view of Souissi et al. (US 6327300 B1).

Regarding **claims 7 & 12**, Gillis et al. does not specify the devices are the Bluetooth devices. However Souissi et al. teaches the first and second devices are, respectively, Bluetooth master and slave devices. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the base unit as the master device and the handset unit as the slave device in Gillis et al.'s apparatus taught by Souissi et al. to have the cordless telephone system compatible to the Bluetooth protocol to gain the mobility (column 1 lines 10-25).

Regarding **claim 19**, except using the first frequency to inform the further apparatus, Gillis et al. discloses all subject matters claimed (refer the rejection of claim 13). *However* Souissi et al. teaches using the newly found better channel to inform the slave device (column 3

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lines 10-30). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Souissi et al.'s teaching in Gillis et al.'s process to have a better communication to overcome the interference (column 3 lines 30-45).

Regarding **claims 14 & 20**, further Souissi et al. teaches the apparatus provided as a Bluetooth master device (51 FIG.2). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the base unit as the master device in Gillis et al.'s apparatus taught by Souissi et al. to have the cordless telephone system compatible to the Bluetooth protocol to gain the mobility (column 1 lines 10-25)

Regarding **claim 21**, Gillis et al. discloses the apparatus provided in a base unit of a cordless telephone system (10 FIG.1).

Regarding **claim 23**, except receiving indication on the first frequency, Gillis et al. discloses all subject matter claimed (refer the rejection of claim 16). *However* Souissi et al. teaches using the newly found better channel to inform the slave device (column 3 lines 10-30). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the Souissi et al.'s teaching in Gillis et al.'s process to have a better communication to overcome the interference (column 3 lines 30-45).

Regarding **claims 17 & 24**, further Souissi et al. teaches the apparatus provided as a Bluetooth slave device (52 FIG.2). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the base unit as the slave device in Gillis et al.'s apparatus taught by Souissi et al. to have the cordless telephone system compatible to the Bluetooth protocol to gain the mobility (column 1 lines 10-25)

Regarding **claim 25**, Gillis et al. discloses the apparatus provided in a cordless

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telephone (FIG. 1, Abstract)

Regarding **claims 22 & 26**, Gillis et al. disclose all subject matter claimed by executing the FIG. 2 and FIG. 3 operations when finding a better channel than the further selected channel after the first found of first frequency cited in claim 1, and the new found better channel is the third frequency and the further selected channel is the fourth frequency.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gillis et al. (US 5323447) in view of Souissi et al. (US 6327300 B1), further in view of Bird et al. (US 6128327).

Regarding **claim 4**, further Bird et al. teaches determining that the second frequency is fading (column 2 lines 5-28). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to determining the fading of the channel taught by Bird et al. in Gillis et al.'s quality parameters to combat the signal-degrading phenomena in the wireless system (column 2 lines 22-23).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M Chang whose telephone number is 703-305-3416. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4800.

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Edith Chang
October 17, 2003



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